

## **Production Services LOTO Procedures**

<b>Definitions</b>		<b>from ESH 1.5.1 LOTO Requirements</b>	
		<b>Date</b>	<b>3/1/2005</b>

**Accountable Key System** (e.g., Captive or Kirk Key) is a system where a key is physically removed from one position and inserted and captured in another lock to enable a system or to provide personnel access to controlled areas. This system is typically used to control active energy sources, personnel access, and energy discharge systems. These systems require design review, periodic testing, and formal review by appropriate departments and Subject Matter Experts or the Safety and Health Services Division (SHSD). See [Appendix B](#).

**Affected Employee** is an employee whose job requires operating or using a machine or equipment on which maintenance, servicing, or construction is being performed under lockout or tagout, or whose job requires work in an area in which such servicing or maintenance is being performed. An "affected employee" need only be able to recognize when the energy control procedure is being implemented, to identify the locks or tags being used, to understand the purpose of the procedure and the importance of not attempting to start up or use the equipment that has been locked out or tagged out. The affected employee equates to the OSHA definition of "unqualified," in that these personnel will not actually perform service.

B/L will accept as an "affected employee" any employee who has attended the basic employee safety orientation or who has attended an SHSD or T&Q-approved program on Lockout/Tagout.

**Authorized Employee** is a "qualified" employee who implements lockout/tagout procedures on machines or equipment to perform the maintenance, servicing, or construction on the machines or equipment.

BNL defines **two** classes of "authorized employees."

1. **"Knowledgeable Employee"** Knowledgeable employees' names are carried on an Organizational list as having received formal coursework in lockout and tagout, and formal training or documented "hands-on experience" in safety-related technical aspects of the equipment. The authorization of these employees to conduct lockout/tagout is limited in that they cannot install "group or operations locks and/or tags." However, they are authorized to attach additional locks and tags in "group lock" or "operations lock" (see definitions) situations provided that their lock and tag is not the first applied or the last one to be removed.
2. **"Responsible Employee"** Responsible employees' names are carried on an Organizational list as having received formal coursework in lockout and tagout, and formal training or documented "hands-on experience" in safety-related technical aspects of the equipment. They also have been trained to exercise group and system-level judgments. These employees are authorized to lockout and tagout any equipment for which they have organizational approval. If coordinated multiple locks and tags are applied by more than one employee, those of the "responsible employee" is the first to be applied and the last to be removed.

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***Energy.*** Kinetic energy due to mechanical motion, and potential energy due to pressure, gravity, or springs, electrical energy, or thermal energy resulting from high or low temperatures.

***Energized.*** Electrically connected to a source of voltage.

***Exclusive Control Over a Work Area*** can be exercised by a single group, and is often enforced by access controls including fences, gates, and special locks. A high-voltage switchyard under the exclusive control of the BNL line crew is an example.

***Exclusive Control Over an Object,*** for example, the cord-end plug when servicing cord-and-plug connected devices when not under lockout/tagout, is the exercising of individual independent authority over the object in a way that prohibits and excludes others from access to the object. Two individuals cannot simultaneously have exclusive control over the same object.

***Group Lock/Operations Lock.*** Systems used to protect personnel in complicated situations or when shift changes or personnel transfers reduce the effectiveness of the one person -- one lock system. A "responsible employee" with special training, who is responsible for the employees working under their protection, must be the one to apply an operations lockout or group lockout process (See [Appendix A](#)). This employee must have the specialized technical knowledge necessary to secure and verify the safe status of complex systems. Each authorized employee working on such a project must also affix their own personal lockout device to the group or operations lockout device when they begin work and remove their device when they stop working on the equipment. These employees need only ensure themselves as to the continued safe status of the equipment they are working on, before they apply their own lock.

***Lockout Box.*** A lockable box used to store lockout keys for complex systems.

***Lockout Device.*** A distinctive device that uses a positive means to secure an energy source and prevent the energization of machinery or equipment. Use BNL Dedicated Lock, Stock Number #I-65064.

***Log.*** An auditable record maintained by any means, including in a book or in a computer. Entries in the log should include all those normally entered into a log book.

***Log Book.*** A bound journal or notebook with numbered pages for maintaining an auditable record of the use of lockout/tagout ([Figure 1](#)).

***Qualified Employee.*** An employee familiar with the construction and operation of equipment and the hazards involved and who recognizes hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary to isolate and control the energy source. Being a qualified employee does not authorize a person to apply or remove lockout/tagout.

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***Supervisor.*** A line supervisor or a formally designated (in writing) alternate. All line supervisors of workers who perform lockout/tagout must qualify at least at the "knowledgeable authorized employee" level for lockout and tagout work. It is desirable for line supervisors to be trained at least to the "responsible employee" level and **act in that capacity.**

***Tagout Device.*** (Hold Tag) An approved BNL Tag; Stock No. S-81045 ([Figure 2](#)).

***Training.*** A formalized, documented program within each organization, which must be established and must conform to [Appendix C](#).